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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of : October 16, 2006
P. H. Westerink : Group Art No.: 2176
Serial No. 09/892,802 : Examiner: J. Blackwell
Filed: June 27, 2001 : for IBM Corporation
Title: DYNAMIC SCENE DESCRIPTION Anne Vachon Dougherty
EMULATION FOR PLAYBACK OF 3173 Cedar Road
AUDIO/VISUAL STREAMS ON A Yorktown Hts, N.Y. 10598
SCENE DESCRIPTION BASED PLAYBACK SYSTEM

BOARD OF PATENT
APPEALS & INTERFERENCES

22 OCT 17 PM 3:33

Board of Patent Appeals and Interferences
Alexandria, VA 22313-1450

AMENDED APPEAL BRIEF (37 CFR 41.37)

Appellants hereby appeal to the Board of Patent Appeals and Interferences from the decision dated March 24, 2006 of the Examiner finally rejecting Claims 1-15 in the above-identified patent application, and respectfully request that the Board of Patent Appeals and Interferences

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consider the arguments presented herein and reverse the Examiner's rejection.

I. REAL PARTY IN INTEREST

The appeal is made on behalf of Appellants, Peter Westerink and Stephen Wood, who are real parties in interest with respect to the subject patent application.

II. RELATED APPEALS AND INTERFERENCES

There are no pending related appeals or interferences with respect to the subject patent application.

III. STATUS OF CLAIMS

There are fifteen (15) claims pending in the subject patent application, numbered 1-15. No claims stand allowed. A complete copy of the claims involved in the appeal is attached hereto.

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IV. STATUS OF AMENDMENTS

There are no unentered amendments filed after final rejection for the application.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present application teaches and claims apparatus, a program storage device, and a method for playback of multimedia presentations on a playback system, such as an MPEG-4 player or a Synchronized Multimedia Integration Language (a.k.a., "SMIL") player, that requires scene description information to appropriately display a scene. The Specification expressly defines the playback information from page 1, line 10 through page 2, line 11. Display may require preparations, such as opening a data channel or setting up buffers, or actions, such as replacing an entire scene.

Independent Claims 1, 6 and 7 recite a method (Claim 1), apparatus (Claim 6) and program storage device (Claim 7) for permitting a scene description based player to play a set of elementary streams. As claimed, the player detects if there is a scene description stream in a received set of

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elementary streams (page 7, line 7). When a received stream, 201 in Fig. 2, does not include the necessary scene description information, as determined at simulation block 203, the scene description information is automatically and dynamically generated by the player for the scenes of the stream (page 6, lines 13-15 and page 7, lines 7-10 and lines 27-28), thereby allowing playback. As taught and claimed, a system such as depicted in Fig. 5, determines at 501 whether the necessary scene description information accompanies the incoming stream. If not, generators 502, 503 and 504 generate the scene description information needed by the player to play the streams.

Claim 8 is directed to a method of using an MPEG-4 player to playback a presentation that contains only audio visual streams. Claim 8 expressly recites steps for an MPEG-4 player comprising constructing a scene graph with nodes for rendering visual and audio (page 8, lines 20-22), encoding the scene graph in a scene replacement command (page 8, line 28-page 9, line 1), constructing and encoding an object descriptor update message (page 9, lines 1-2 and lines 5-6), constructing an initial object descriptor which describes the object descriptor and scene description

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streams (page 9, lines 8-9), and providing all of the foregoing for playing received streams (page 9, lines 9-12).

Claim 9 is directed to a method for permitting an MPEG-4 player to play a set of elementary streams having no MPEG-4 system streams. As claimed, the MPEG-4 player detects if there is an MPEG-4 system stream (page 7, lines 24-25) and, if not, generates an MPEG-4 system stream to permit playback of received elementary streams (page 8, lines 4-6).

Claims 13-15 recite a method (Claim 13), an apparatus (Claim 14) and a program storage device (Claim 15) for permitting an SMIL based player to play a set of elementary streams having no SMIL document, including steps and means for detecting if an SMIL document is present (page 10, lines 11-13) and, if not present, generating the SMIL document to allow playback (page 10, lines 13-15).

Appellants point out that it is not simply synchronization information to allow synchronized display which is generated, but necessary playback information without which the player cannot display the streams. Appellants note that each of the independent claims expressly recites that the generated information is generated by the scene description based player/MPEG-4

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player/SMIL player and is "used to permit said player to play" the streams/presentation.

VI. GROUND OF REJECTION TO BE REVIEWED

The grounds of rejection to be reviewed is that Claims 1-15 have been rejected under 35 USC 103(a) as being unpatentable over U.S. Patent Application Publication No. 2001/0055476 of Takahashi, et al (hereinafter, "Takahashi").

VII. ARGUMENT

Claims 1, 6, and 7

Claims 1, 6, and 7 recite a method (Claim 1), apparatus (Claim 6) and program storage device (Claim 7) for permitting a scene description based player to play a set of elementary streams. As claimed, the player detects if there is a scene description stream in a received set of elementary streams and, if no scene description stream is

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detected, the player generates a scene description stream for displaying the set of elementary streams.

The Takahashi patent publication is directed to a video processing method and apparatus for recording video and audio data (see: e.g., steps S423 and S431 of Fig. 4) to include access point data and instructions as to whether or not to multiplex the video and audio data. By including the instruction or flag information about multiplexing, unnecessary processing (i.e., multiplexing and demultiplexing) can be avoided when it is not needed.

Under the Takahashi teachings, either instruction information or a flag is provided to a player along with the "plural pieces of digital data" (see: paragraph [0012], lines 2-4; paragraph [0013], lines 2-4, paragraph [0016], lines 4-5, paragraph [0017], lines 2-4, paragraph [0018], lines 2-4, paragraph [0019], line 5, paragraph [0020], lines 4-5, paragraph [0021], lines 6-8, paragraph [0022], lines 7-8, paragraph [0023], lines 2-4, paragraph [0024], lines 5-6. Therefore, a player always receives both the data for display and the instruction/flag information. Takahashi does not teach a player and playback method, but teaches a recording system and recording method for providing data for display along with instruction/flag information. When

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recording data, for example as described in paragraph [0039], a determination is made as to whether a scene description exists and, if no scene description is inputted, "the CPU 11 sets the scene description flag at 0 (S414), and generates access information for random access (step S415)." Accordingly, Takahashi inserts synchronization information when there is no scene description information. What Takahashi is doing is recording the video signal to include the "video and audio packets...together with the management information and the access information" (paragraph [0040], lines 7-11). Any generating of signal processing information is being done at the Takahashi video recorder, and not at the player.

Appellants respectfully assert that the Takahashi patent publication neither teaches nor suggests the invention as claimed. For all playback under Takahashi a player receives an incoming stream comprised of digital data and either an instruction or a flag or both. Takahashi neither teaches nor suggests that a player receives an incoming stream which does not include additional information. Takahashi does not teach or suggest that a player needs to detect whether an incoming stream has the additional information, since Takahashi teaches that a video

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processing system records all video playback signals to include both the display data and the instructions/flags. Further, Takahashi effectively teaches away from such detection at a player, since Takahashi necessarily provides a signal with an instruction or a flag.

Appellants further assert that Takahashi does not teach or suggest that a player generates a scene description stream. While the Takahashi video recording system may record synchronization information (i.e., the access point data) for a stream, Takahashi neither teaches nor suggests that a video player generates any synchronization information, instruction information, or flags.

Appellants point out that, as taught by the present Specification (see: e.g., page 4, "Playback in absence of MPEG-4 Systems Components"), without the scene description information, it is not possible for the players to display the received streams unless modifications are made to the players. It is not simply a question of optimizing display by synchronization of audio to visual, it is a question of being able to display the audio/visual data at all. As is expressly recited in each of the claims, the player generates the needed scene description stream which "is used to permit said player to play" the audio/visual data

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(emphasis added). It is the scene-description based player, and more particularly the MPEG-4 player or the SMIL player, that requires the information and that generates the required information. All of the claims expressly recite a scene description based player, an MPEG-4 player, or an SMIL player, which is generating the scene description stream.

Appellants respectfully conclude that the invention as claimed is patentable over the teachings of the Takahashi patent publication. It is well established under U.S. Patent Law that, for a determination of obviousness, the prior art must teach or suggest all of the claim limitations. "All words in a claim must be considered in judging the patentability of that claim against the prior art" (*In re Wilson*, 424 F. 2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)). If the cited references fail to teach each and every one of the claim limitations, a *prima facie* case of obviousness has not been established by the Examiner. Since the Takahashi publication does not teach or suggest a player detecting a lack of scene description information or a player generating scene description information, it cannot be concluded that the Takahashi publication obviates the invention as claimed.

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Claims 2-5

Claims 2-5, which depend directly or indirectly from Claim 1, additionally recite that an MPEG-4 scene description/command is generated (Claims 2 and 5), that the scene description stream is generated by an MPEG-4 scene description generator at the player (Claim 3), and that the scene description stream comprises a plurality of MPEG-4 scene description commands (Claim 4). Appellants rely on the arguments presented above with regard to the teachings of Takahashi and further assert that Takahashi neither teaches nor suggests that a player generates MPEG-4 scene descriptions/commands or has an MPEG-4 scene description generator. Takahashi teaches generating any scene synchronization/description information at the recorder and not at the playback component.

Claim 8

Claim 8 is directed to a method of using an MPEG-4 player to playback a presentation that contains only audio visual streams. Claim 8 expressly recites steps for an MPEG-4 player comprising constructing a scene graph with

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nodes for rendering visual and audio, encoding the scene graph in a scene replacement command, constructing and encoding an object descriptor update message, constructing an initial object descriptor, and providing all of the foregoing for playing received streams. Again, Appellants rely on the arguments set forth above with regard to the teachings of Takahashi. Appellants further reiterate that the Takahashi patent publication does not teach that a player receives only audio and visual streams, but teaches that the video recorder always includes at least a flag indicator if not also a scene descriptor. Further, Takahashi does not teach or suggest an MPEG-4 player with the capability of generating/constructing the scene information as claimed. Takahashi teaches that a video recording unit generates scene description and/or multiplexing flag information.

Claims 9-12

Claim 9 and Claims 10-12 which depend therefrom are directed to a method for permitting an MPEG-4 player to play a set of elementary streams having no MPEG-4 system streams. As claimed, the MPEG-4 player detects if there is an MPEG-4

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system stream and, if not, generates an MPEG-4 system stream to permit playback of received elementary streams. In addition to the arguments presented above, Appellants note that Takahashi does not teach a method for an MPEG-4 player to generate an MPEG-4 system stream.

Claims 13-15

Claims 13-15 recite a method (Claim 13), an apparatus (Claim 14) and a program storage device (Claim 15) for permitting an SMIL based player to play a set of elementary streams having no SMIL document including steps and means for determining if an SMIL document is present in the received stream and, if not present, generating the SMIL document to allow playback. In addition to the arguments presented above, Appellants note that Takahashi does not teach a method for an SMIL player to generate an SMIL system stream.

CONCLUSION

Appellants respectfully assert that the Examiner has erred in rejecting Claims 1-15 as unpatentable over the teachings of the Takahashi patent publication. "All words in a claim must be considered in judging the patentability of that claim against the prior art" (*In re Wilson*, 424 F. 2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)). If the cited references fail to teach each and every one of the claim limitations, a *prima facie* case of obviousness has not been established by the Examiner. Since the Takahashi patent document fails to teach a player, method for a player, or program storage device for a player to perform a method for generating scene description information necessary to permit playback, it cannot be maintained that Takahashi obviates the claimed invention. Appellants request that the decision of the Examiner, rejecting all of the pending claims, be overturned by the Board and that the claims be passed to issuance.

Respectfully submitted,
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APPENDIX OF CLAIMS

1. A method of permitting a scene description based player to play a set of elementary streams having no scene description, said method comprising:

 said player detecting if there is a scene description stream in a set of elementary streams, said scene description stream providing information on the position and interrelationship of audio visual objects in a scene; and

 if no scene description stream is detected, said player generating a scene description stream for displaying said set of elementary streams, wherein said scene description stream is used to permit said player to play said set of elementary streams.

2. A method as recited in claim 1, wherein, said set of multimedia streams comprises at least one of a single audio stream and a single visual stream, said generating a scene description stream comprises constructing an MPEG-4 scene replacement command with an MPEG-4 scene graph having nodes for rendering said audio and/or visual streams, generating

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an object descriptor stream by constructing MPEG-4 object descriptor update commands, and constructing an MPEG-4 initial object descriptor for describing said object descriptor stream and a scene description stream.

3. A method as recited in claim 1, wherein said scene description stream is generated by an MPEG-4 scene description generator.

4. A method as recited in claim 1, wherein said scene description stream comprises a plurality of MPEG-4 scene description stream commands.

5. A method as recited in claim 2, wherein said plurality of commands comprises at least one of the following commands: a scene replacement command, a node insertion command, and a node deletion command.

6. An apparatus for permitting a scene description based player to play a set of elementary streams having no scene description stream, said apparatus comprising:

a scene description detector at said player for detecting

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in a received set of elementary streams whether there is a description stream providing information on the position and interrelationship of audio visual objects in a scene; and

a scene description stream generator at said player for generating a scene description stream for displaying said set of elementary streams when no scene description stream is detected, wherein said scene description stream is used to permit said player to play said set of elementary streams.

7. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for permitting a scene description based player to play a set of elementary streams having no scene description stream, said method comprising:

detecting at said player if there is an scene description stream in a set of received elementary streams, said scene description stream providing information on the position and interrelationship of audio visual objects in a scene; and

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if no scene description stream is detected, said player generating a scene description stream for displaying said set of elementary streams, wherein said scene description stream is used to permit said player to play said set of elementary streams.

8. A method of using an MPEG-4 player to playback a presentation that contains only audio visual streams, said method comprising the steps for said player of:

constructing a scene graph with nodes for rendering visual and audio for a presentation with visual and audio;

encoding said scene graph in a scene replacement command;

constructing object descriptor update messages for said visual and audio;

encoding said object descriptor update messages to generate an object descriptor stream;

constructing an initial object descriptor which describes said object descriptor and scene description streams; and

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supplying said initial object descriptor, said object descriptor stream and said scene description stream to said MPEG-4 player to permit playback of said presentation.

9. A method of permitting a MPEG-4 systems based player to play a set of elementary streams having no MPEG-4 systems streams, said method comprising the steps for said player of:

detecting if there is an MPEG-4 system stream, said MPEG-4 system stream providing information on the position and interrelationship of audio visual objects in a scene; and

if no MPEG-4 system stream is detected, generating an initial object descriptor, a scene description stream, and an object descriptor stream for displaying said set of elementary streams, wherein said initial object descriptor, said scene description stream, and said object descriptor stream are used to permit said player to play said set of elementary streams.

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10. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of an initial object descriptor stream.

11. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of a scene description scene stream.

12. A method as recited in claim 9, wherein said MPEG-4 system stream is detected by checking for the presence of an object descriptor stream.

13. A method of permitting a Synchronized Multimedia Integration Language (SMIL) based player to play a set of elementary streams having no SMIL document, said method comprising:

 said player detecting if there is an SMIL document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and

 if no SMIL document is detected, said player generating an SMIL document, where said SMIL document is used to

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permit said player to play said set of elementary streams.

14. An apparatus for permitting an SMIL based player to play a set of elementary streams having no SMIL document, said apparatus comprising:

an SMIL document detector at said player for detecting if there is an SMIL document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and

an SMIL document generator at said player for generating an SMIL document if no SMIL document is detected, where said SMIL document is used to permit said player to play said set of elementary streams.

15. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for permitting a scene description based player to play a set of elementary streams having no scene description stream, said method comprising:

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said player detecting if there is a Synchronized Multimedia Integration Language (SMIL) document, said SMIL document providing information on the position and interrelationship of audio visual objects in a scene; and

if no SMIL document is detected, said player generating an SMIL document, where said SHIL document is used to permit said player to play said set of elementary streams.

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EVIDENCE APPENDIX

There has been no additional evidence presented.

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RELATED PROCEEDINGS APPENDIX

There are no related proceedings.